Coastal Impact Assistance Program (CIAP)

Project Title:
Closure of Breaches GIWW Terrebonne
This proposal is a component of CWPPRA project TE-43 Bank Restoration of Critical Areas in Terrebonne.

Entity/Individual nominating the project:
Continental Land & Fur Co., Inc. (CL&F)

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Total CIAP Funds Requested:
The total CIAP funds requested- $7,929,035 (see attached NRCS cost sheet). Total costs are based upon original NRCS engineering and design costs on TE-43 CWPPRA project.

Parish CIAP Funds Proposed:
At this time it is unknown if parish CIAP funds will be proposed for this project.

State CIAP Funds Requested:
The State CIAP funds requested- $7,929,035.

Infrastructure Funds Proposed:
There are no infrastructure funds proposed for this project.

Description and Location of Project:
The CWPPRA Project TE-43 is located in the Terrebonne Basin, in Terrebonne Parish, Louisiana. TE-43 would create rock shoreline protection along 40,000 linear feet of the south bank line of the GIWW from the Gulf South Pipeline to the St. Paul Bayou Oilfield (Figure 1). TE-43 would

protect the remaining bank from wave energy generated by very heavy barge/tow boat traffic, currents, and wind and close the breaches where water exchange is now occurring.

This proposed CIAP project (**Closure of Breaches GIWW Terrebonne)** is located within the same general project area of TE-43 and would close four (4) breaches along the south bank of the GIWW totaling 14,500 linear feet (Figure 2). From west to east along the GIWW the proposed closures are numbered – Segment 1- 1,500 ft., Segment 2a- 500 ft., Segment 2b- 4,500 ft., and Segment 6- 8,000 ft. (Figure 3, Figure 4). The breach closures engineered for this bank line (light weight aggregate core capped with rock) will provide immediate benefits to the adjacent thin-mat floating marshes by stopping water movement through these large breaches.

Project Type (from list of authorized CIAP fund uses):
This proposed project would be classified as Type 1- Conservation, restoration and protection of coastal area, including wetlands.

Project Justification:
The width of the GIWW adjacent to the four (4) proposed breach closures ranges from 700 feet to almost 2,000 feet. This large area of open water allows for wave fetch from wind, currents, and boat traffic. These four (4) critical breaches are allowing water flow from the GIWW into and out of the fragile floating fresh marsh south of the GIWW. These direct hydrologic connections have destroyed adjacent floating marsh and are accelerating the breakup of thin-mat floats located south of these breaches and extending at least six (6) miles to the south (Figure 5). This area of thin-mat floating fresh marsh is quite unique and extremely productive supporting a wide variety of fish and wildlife species. The thin-mat floats in this area are 2"- 8" in thickness and floating on an unconsolidated organic muck. When protected from high velocity turbid water, the floats are usually surrounded by SAVs providing additional protection from wind and waves. When water is funneled through these breaches with increased velocity the floats eventually break into pieces and are exported from the marsh. This converts floating fresh marsh into open turbid water subject to increased export of unconsolidated organics and increased water depths (Figure 6).

This proposed project is fully engineered and free of issues. Elimination of these hydrologic connections will result in an immediate benefit to a large area of floating fresh marsh (approx. 30,000 acres). Maintaining this area as floating fresh marsh rather than allowing it to convert to open turbid water will also provide added protection to the Bayou Black Ridge located five (5) miles north. The size of this proposed project has been reduced to closing the four existing breaches (14,500 linear feet) with an estimated cost of 28% of the cost for the entire TE-43 project. Although the extent of shoreline protection is reduced, the area of floating marsh protected is greater than the project size originally calculated. CL&F's management experience shows that floating marshes are more intact when adjacent to a solid bank line than when subjected to water movement through breaches and washouts. This has been monitored and demonstrated for many years on CL&F property. Figure 7 shows the results of protection of a continuous bank along one side of a pipeline canal to the adjacent thin-mat floating marsh.

Closure of these breaches will reduce the high rate of breakup of the adjacent thin-mat floating marshes while other sources of funds are sought for long-term shoreline protection in between these structures. Status reports from the Mandalay Bank Protection Demonstration Project (TE-41) may result in a more economical method to protect the remaining banks.

CL&F conducted bank restoration in 2004 along the north side of the GIWW in the same general area of this proposed project and witnessed improved conditions to adjacent floating marshes and SAVs. However, because of cost, this work was done with the construction of earthen banks only and erosion along this restored bank has been high.

If these breaches along the GIWW are not closed with this proposed CIAP project the adjacent large area of fragile thin-mat floating marshes will continue to breakup and the area will be converted from marsh to open turbid water.

Project cost share (Types and amounts of non-CIAP funds proposed, if any):
There is no cost share proposed for this project.

Project:	Project Name: GIWW Terrebonne	Date:	30-Mar-06	Revised:	30-Mar-06
Computed by:		*Project Priority List 15*			
Item No.	**Work or Material**	**Quantity**	**Unit**	**Unit Cost**	**Amount**
1	Foreshore Rock Dike	14,500	LF	$430	$6,235,000
2	(Mob/Demob Included in unit cost)				
3					
4					
5					
6					
7					
8					

ESTIMATED CONSTRUCTION COST **$6,235,000**

ESTIMATED CONSTRUCTION + 25% CONTINGENCY **$7,793,750**

TOTAL ESTIMATED PROJECT COSTS

PHASE I

Federal Costs

Engineering and Design:

Engineering	$0 (Phase I E&D Completed in TE-43 Project)
Geotechnical Investigation	$0
Hydrologic Modeling	$0
Data Collection	$0
Cultural Resources	$0
NEPA Compliance	$0

SubTotal: $0

	NMFS	**NRCS**	**Other**	**Actual**
Supervision and Administration	$0	$0	$0	$0

State Costs

Supervision and Administration (including PM, ecological review and engineering review) $0

Easements and Land Rights

Oyster Issues(# of Leases)	0 Leases	$0	
Land Rights		$100,000	
		SubTotal:	$0

Monitoring

Monitoring Plan Development	$0
Monitoring Protocal Cost*	$0

* *Monitoring is now done through CRMS except on projects that an agency requests project specific monitoring and projects such as Barrier Island projects and Demo projects.*

SubTotal: $0

Total Phase I Cost Estimate: **$0**

PHASE II

Federal Costs

Estimated Construction Cost +25% Contingency		$7,793,750	
Oyster Issues (# of Leased Acres)	0 Leased AC	$0	
		SubTotal:	$7,793,750
Supervision and Inspection	145 days @	$933.00 per day	$135,285
Supervision and Administration			$0

State Costs

Supervision and Administration $0

Total Phase II Cost Estimate: **$7,929,035**

TOTAL ESTIMATED PROJECT FIRST COST **$7,929,035**

Figure 1

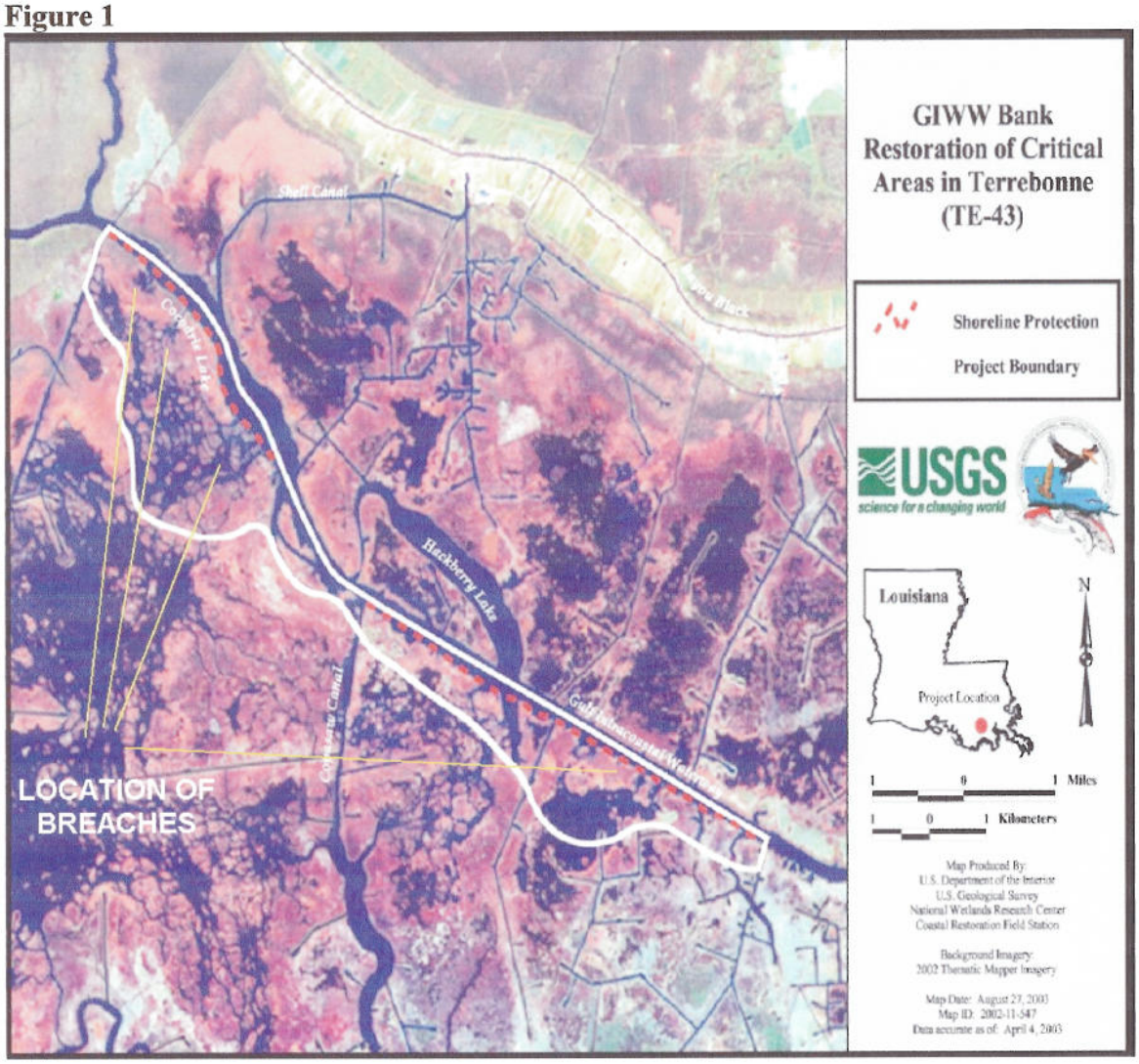

GIWW Bank Restoration of Critical Areas in Terrebonne (TE-43)
Shoreline Protection
Project Boundary
USGS
science for a changing world
Louisiana
Project Location
N
1 0 1 Miles
1 0 1 Kilometers
Map Produced By:
U.S. Department of the Interior
U.S. Geological Survey
National Wetlands Research Center
Coastal Restoration Field Station
Background Imagery:
2002 Thematic Mapper Imagery
Map Date: August 27, 2003
Map ID: 2002-11-547
Data accurate as of: April 4, 2003
LOCATION OF BREACHES
Shell Canal
Hackberry Lake
Gulf Intracoastal Waterway

FIGURE 2

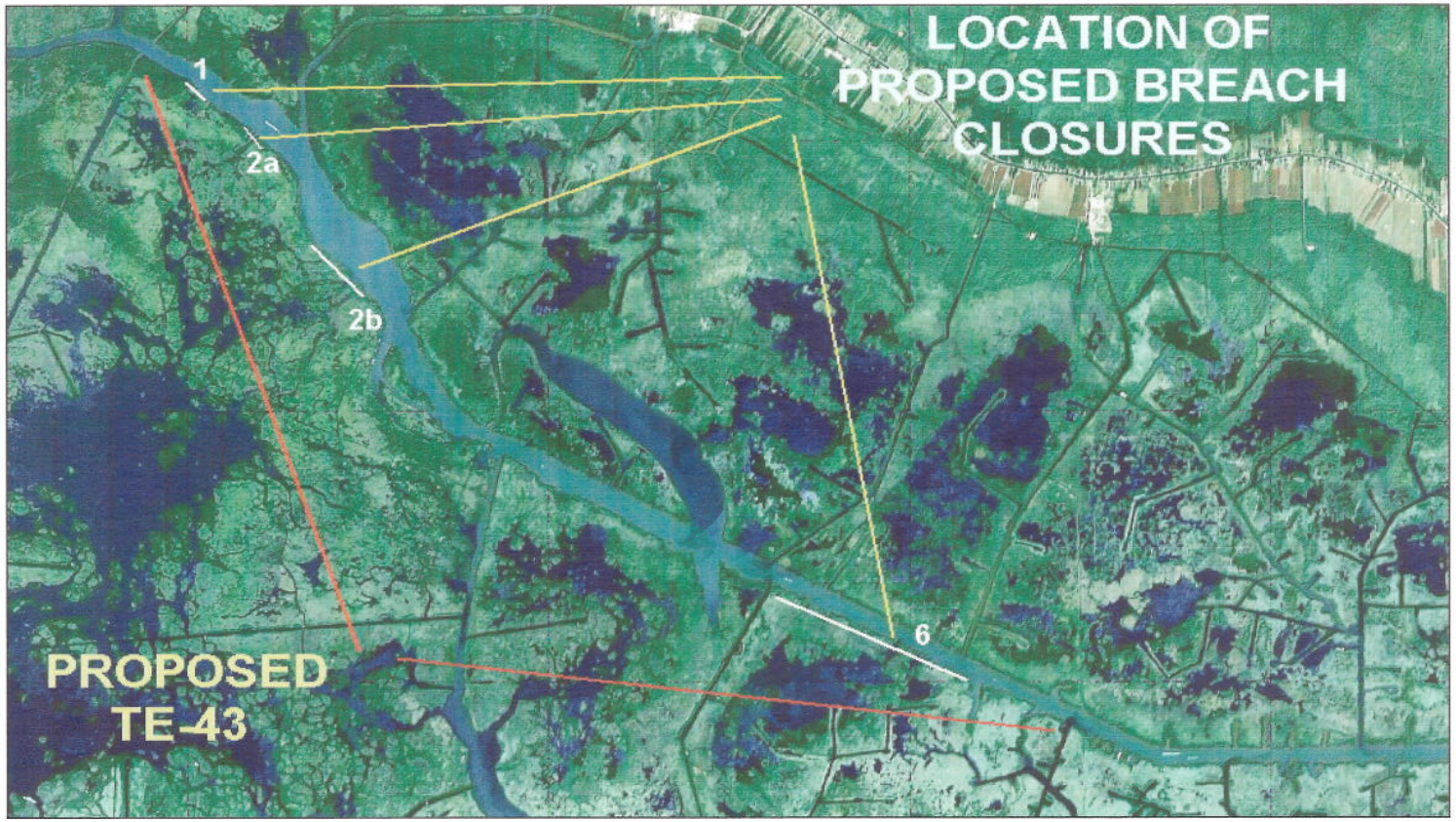
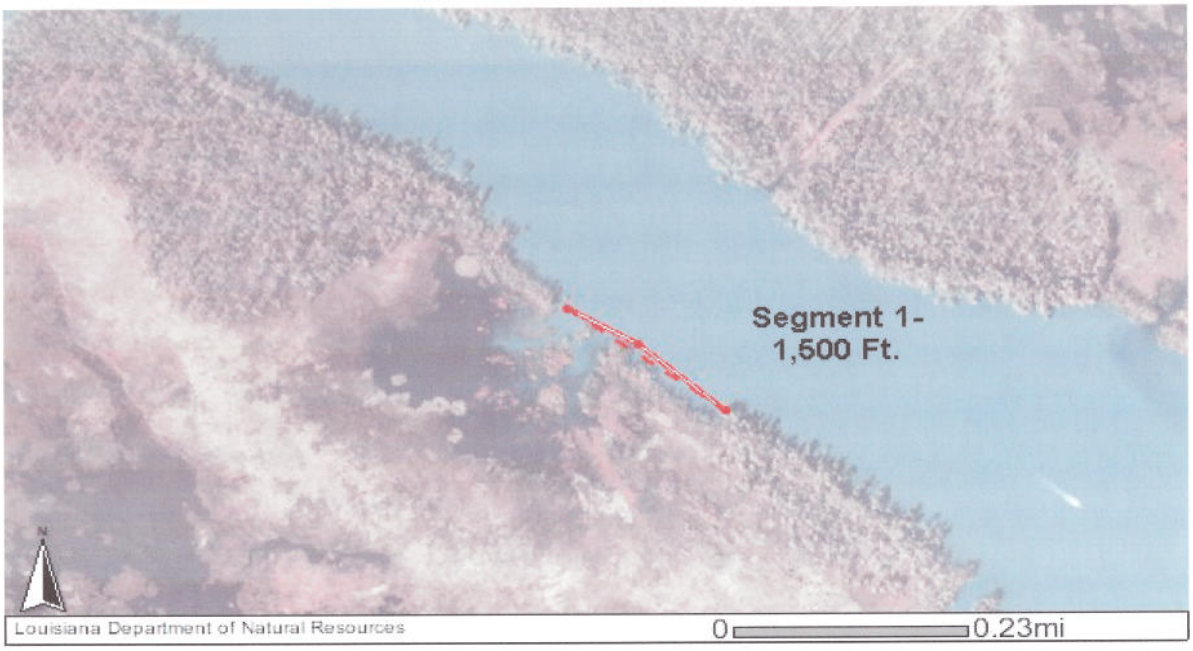

LOCATION OF PROPOSED BREACH CLOSURES
1
2a
2b
6
PROPOSED TE-43
MN (1.1° E)
mi
0 ½ 1 1½ 2 2½
Data Zoom 12-0

Figure 3-Proposed Breach Closures, Segments 1 and 2a.



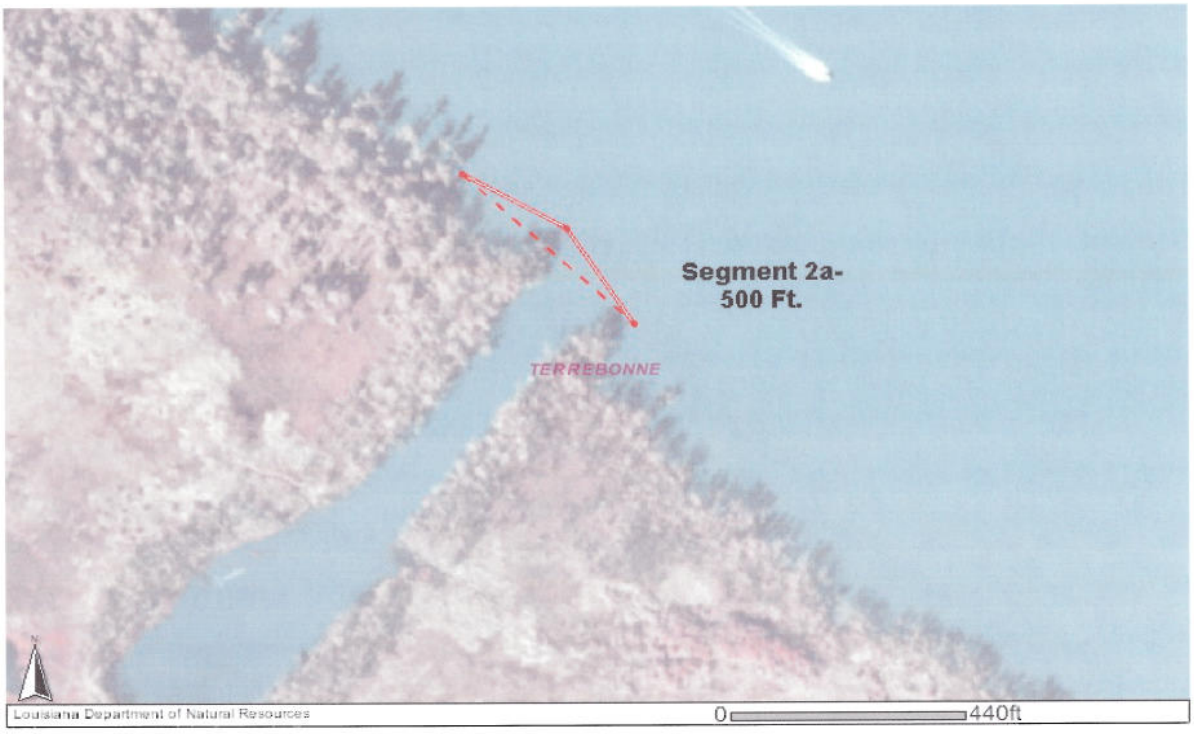


Figure 4- Proposed Breach Closures, Segments 2b and 6.

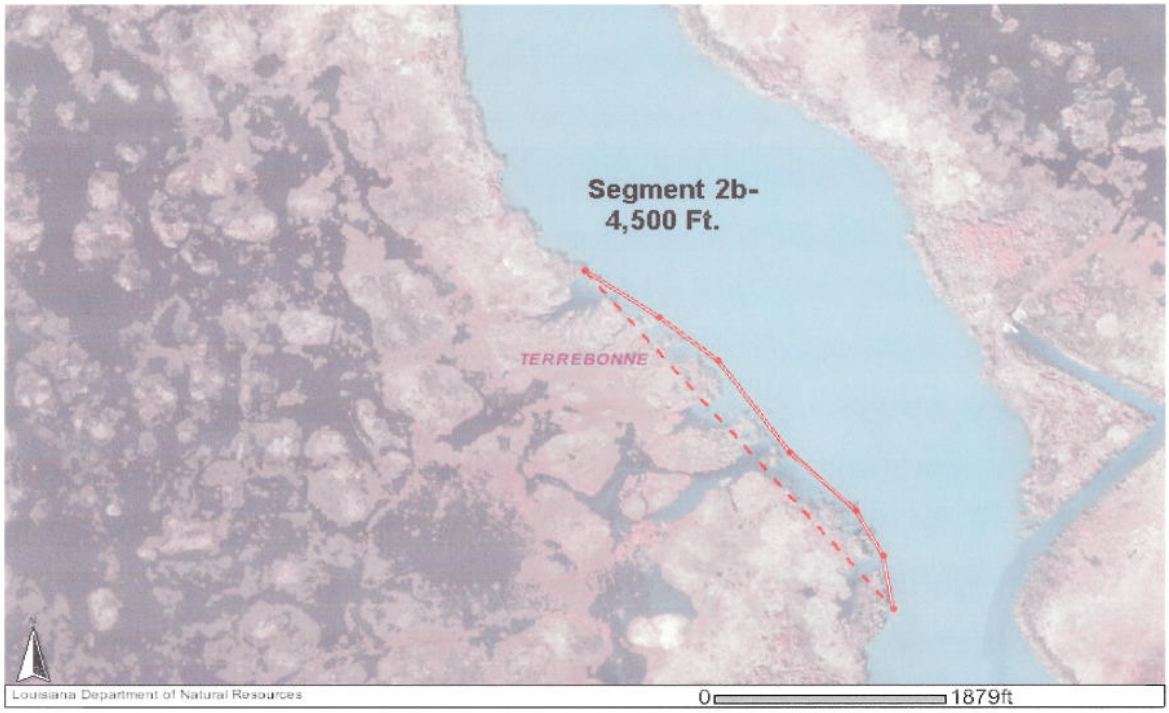


Figure 5

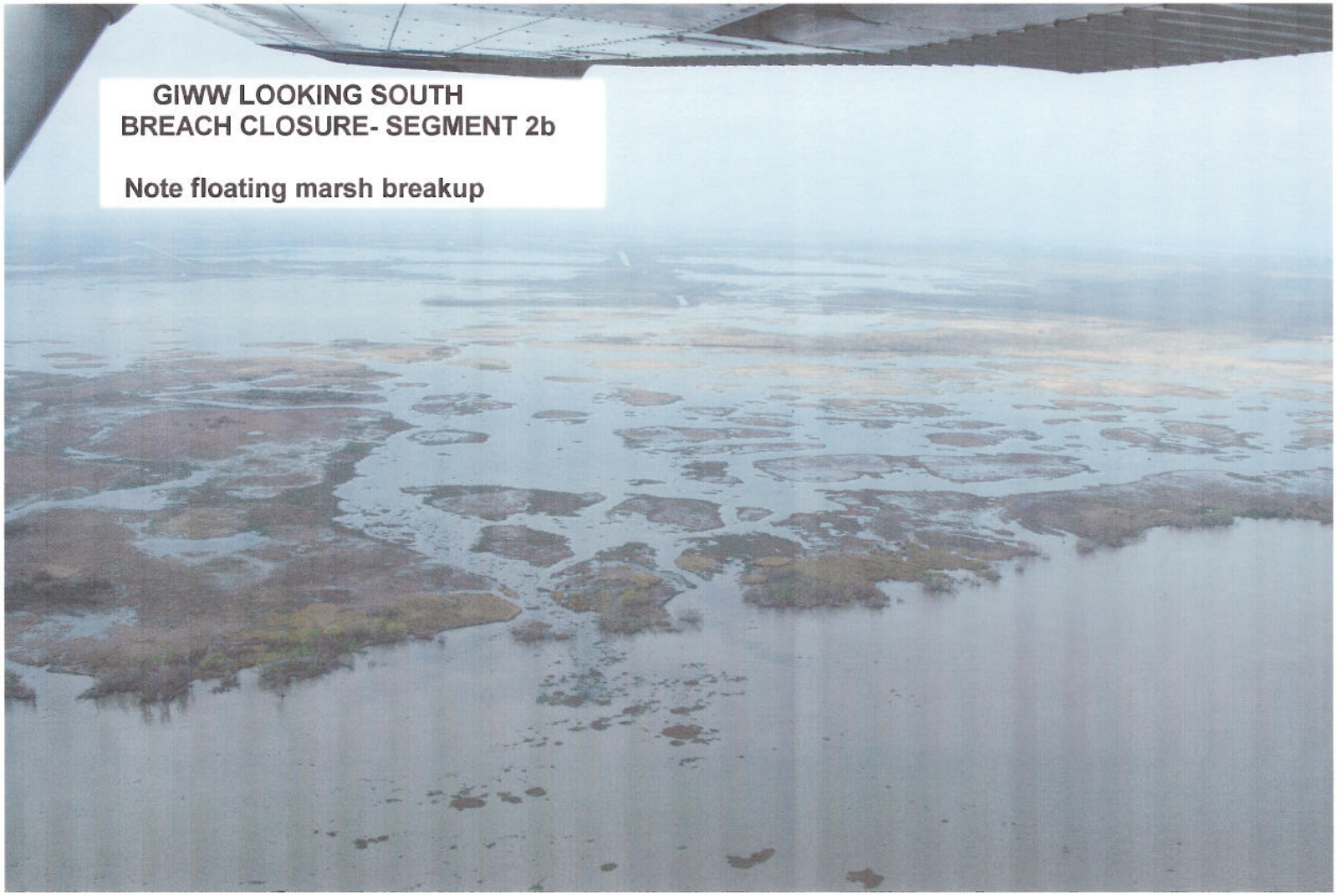

GIWW LOOKING SOUTH
BREACH CLOSURE- SEGMENT 2b
Note floating marsh breakup

Figure 6

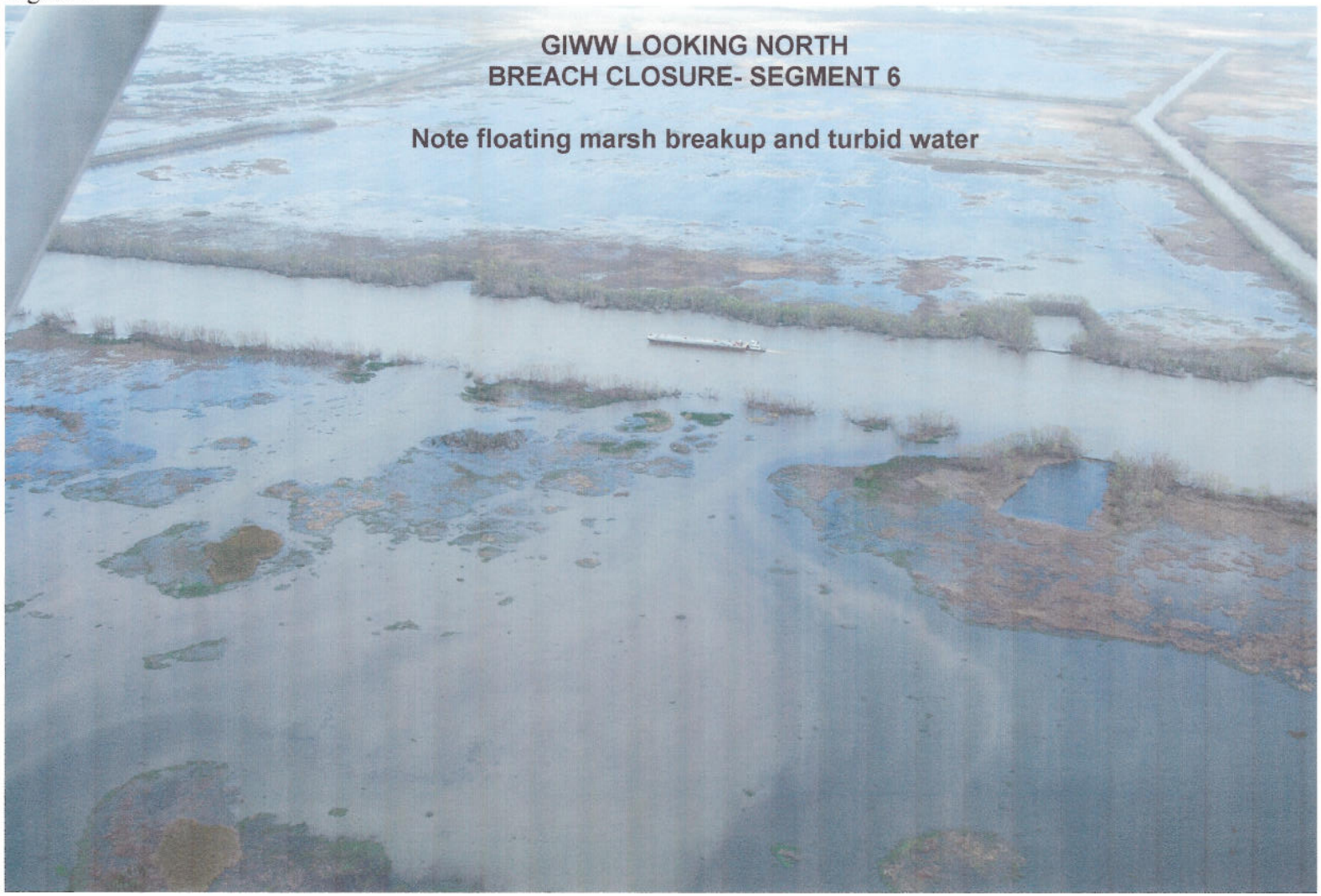

GIWW LOOKING NORTH
BREACH CLOSURE- SEGMENT 6
Note floating marsh breakup and turbid water

Figure 7